MOROCCO FP/MCH PHASE V PROJECT

Safe Motherhood Pilot Project

Project Evaluation
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Short Term Consultants Report

submitted by

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ACRONYMS ***(Alternative versions used in English text are in italics)***

	(ACNM)	*American College of Nurse-Midwives*
CHU		Centre Hospitalier Universitaire
CNFRH		Centre National de Formation en Reproduction Humaine
CR		Centre de Référence
	(RH)	*(Referral Hospital)*
CS		Centre de Santé
	(HC)	*(Health Centre)*
DF		Division de la Formation
DNS		Diplome National de Spécialité
DP		Direction de la Population
DRH		Division des Ressources Humaines
DSMI		Division de la Santé Maternelle et Infantile
EU		Union Européan
	(EU)	*(European Union)*
FC		Formation Continue
	(CE)	*(Continuing Education)*
FNUAP		Fonds des Nations Unies pour la Population
	(UNFPA)	*(United Nations Fund for Population)*
IEC		Information, Education et Communication
IFCS		Institut de Formation en Carrieres de Santé
JSI		John Snow Inc.
MSP		Ministere de la Santé Publique
MSR		Maternité Sans Risque
	(SM)	*(Safe Motherhood)*
OMS		Organisation Mondiale de la Santé
	(WHO)	*(World Health Organisation)*
SIAAP		Service d'Infrastructure des Actions Ambulatoires Provinciales
SMI		Santé Maternelle et Infantile
	(MCH)	*(Maternal and Child Health)*
SOU		Soins Obstétricaux d'Urgence
	(EmOC)	*(Emergency Obstetric Care)*
SOUB		Soins Obstétricaux d'Urgence de Base
SOUC		Soins Obstétricaux d'Urgence Complets
	(ToT)	*(Training of Trainers)*
UNICEF		Fonds des Nations Unies pour l'Enfants
USAID		United States Agency for International Development

CONTENTS

1. INTRODUCTION

The maternal mortality ratio (MMR) for Morocco, 330 / 100,00 in 1992, has changed little since it was first measured in 1978 in contrast to improvements in other health indicators. Major donor inputs to prenatal care had had little effect. In 1995 the Ministere de la Santé Publique (MSP) launched a change of strategy based on the concept of the 'Three Delays' and adopted a policy of improving access to Emergency Obstetric Care (EmOC). EmOC addresses directly the five major causes of maternal death i.e. haemmorage, infection, eclampsia, obstructed labour and unsafe abortion.

In 1995 the Moroccan MSP began a pilot project, based on the above concept and with funding from JSI/USAID, in the Central-North region (Annex 1). The population of this Region is 3,186,651.

The Pilot Project had three main Objectives:

1. Increase the availability of Emergency Obstetric Care
2. Increase the utilization of Emergency Obstetric Care
3. Improve the quality of Emergency Obstetric Care

The main inputs of the project have been:

- Infrastructure (construction, renovation)
- Equipment
- Training
- Information System
- Standards and Protocols
- IEC

The aim was to develop services for comprehensive EmOC in seven hospitals, and basic EmOC in 52 health centres (Annex 8).

The essential activities included in basic EmOC are:

- use of oxytocics (injectable);
- use of antibiotics (injectable);
- use of anticonvulsants (injectable);
- manual removal of placenta;
- use of ventouse;
- removal of retained products of conception;
- referral.

Comprehensive EmOC includes all the above elements plus Caesarian Section and Blood Transfusion.

The Maternal Mortality Ratio is not a good indicator for measuring progress of a project such as this over a relatively short period of time. The Project has adopted a number of process indicators which measure progress towards stated objectives (Annex 2). These indicators are now recommended by WHO/UNICEF/UNFPA

(1997) and are being used by a number of maternal health projects worldwide although as yet there is little documented experience in their use.

The Pilot Project is due for completion in 1999. In order to evaluate the project and make recommendations for expanding it to other regions of Morocco, two international consultants were recruited (Annex 3). Dr. Deborah Maine had been involved in the initial design of the project and had visited Morocco several times during implementation. Dr. Elizabeth Goodburn had visited the project in mid 1998 and undertaken a detailed evaluation of the training component.

2. METHODOLOGY

The following methods were used for the evaluation:

Document Review (Annex 4)
Interviews with key people (Annex 5)
Visits to selected field sites (Annex 6)
Analysis of data

Selection of the sites visited was made purposively to include facilities with a range of characteristics. 4 Provinces were visited. 4 facilities providing comprehensive EOC were visited and 7 facilities providing basic EOC. Site visits were structured using pre-prepared guidelines (Annex 7).

3. FINDINGS

3.1. General

The overall result of the project is impressive. In general the evaluation team found that the project had successfully implemented both basic and comprehensive emergency obstetric care in all sites for which definitive plans had been developed and well within the time frame allocated. In addition it is clear that, as the first decentralized activity of this kind, the project had acted as a catalyst for the successful initiation of many other decentralized activities. In the words of the Regional Delegue ‘the MSR project has been the locomotive driving the train of decentralization’. The evaluation team were able to identify a number of areas where further work is needed but this should not detract from the impression of a project for which strong leadership and team work at Regional and Central Level combined with timely and appropriate technical assistance from the donor agency has resulted in a major achievement.

3.2. Availability

3.2.1 Indicators

The number of SOUCs increased from 3 to 6. The population per SOUC decreased from 1,062,217 to 531,109. The minimum level recommended by WHO is 500,000

per SOUC. This means that the Project area remains just above the recommended minimum and should consider mechanisms for increasing the number of SOUCs in the Region. It was noted that a SOUC was planned for Taonate and that this is scheduled for completion in 1999. In Taza, the facility at Guercif with more than 1000 deliveries per year could be upgraded to a SOUC serving the Eastern side of the Province.

The number of SOUBs increased from 30 to 55. The population per SOUB decreased from 106,222 to 57,939. The minimum level recommended by WHO is 125,000 per SOUB. This means that in terms of SOUB facilities the Project area is now well within the recommended minimum.

3.2.2 Functions

The six monthly reports from facilities include a section reporting the availability of functions at the facility. In most cases facilities had reported what had been done though some reported what was available. There has been an increase in the number of functions done at facilities over the life of the project (Annex 9). However, it is clear that many SOUB facilities are functioning below the level of 6 functions. The main reasons for this are:

- the total volume of maternity work being done at some facilities is still very low.
- cases may be referred despite the potential for treatment at the facility.
- restrictions on prescribing by nurses/midwives. (e.g. injectable anti-biotics)
- eclampsia is rare so many facilities did not see any cases requiring anti-convulsants/hypertensives
- staff at some facilities were not confident to use the new Ventouse equipment because it was different from either the equipment used in training or their old equipment.

All SOUCs visited had a blood transfusion service and had medical personnel capable of performing a Caesarian Section. In the new SOUCs, a surgeon had been trained to provide this service.

3.2.3 Equipment

All equipment planned under the project had been procured and distributed. In all sites visited the new equipment had arrived. Most of the equipment was already being used.
All the equipment was of good quality and most of the items were appropriate and essential for the success of the project.

It was noted that the ventouse equipment included plastic disposable parts intended for single use (cups; filters). As there were no spares, staff had used these several times (disinfecting them between uses as plastic parts cannot be autoclaved) and they had become dirty and worn out. Metal reusable parts would have been more appropriate and will need to be supplied. It was pointed out to us that the anaesthetic machines lacked capnographs and these will need to be supplied.

Some of the equipment seemed unnecessarily elaborate for its intended use. For example, some SOUB facilities had received heavy heated gynaecological tables some of which were not being used because the staff preferred the simpler tables already in use; the hospitals had been supplied with elaborate ultrasound machines which were mainly only used for diagnosis of basic emergencies such as placenta praevia. In a number of sites the washing machines had not been installed - usually because the volume of work at the facility was so low that no need for a washing machine had been felt, but in some places because the staff did not know how to use it. .

In a few sites simple instructions (in French and in large typefont) for use of equipment such as autoclaves had been prepared and was displayed near or on the appliance. This is an excellent idea which should be replicated.

All equipment had been purchased through American suppliers because of USAID rules. The cost of the standard set for a SOUB facility was $7482 (Annex) . This compares favourably with the cost of $9300 originally estimated by the procurement consultant (M. Debay, June 1995) . We attempted to calculate the possible savings if procurement had been through UNIPAC. It was not possible to arrive at a total as a number of the items were not available through the standard UNIPAC catalogue. However, it is clear that surgical instruments are considerably cheaper through UNIPAC as are some of the larger items such as Delivery Beds and Sterilizers.

3.2.4 Infrastructure

Infrastructure development (mostly renovation and repair with some construction) seemed generally to have been appropriate, timely, and of good quality. In one or two places infrastructure development had been requested but not agreed. In these places the existing structures seemed adequate.

Co-ordination with other donors involved in infrastructure development (EU, WB) seems to have been excellent.

3.3 Utilization

3.3.1 Indicators

The most robust data available to evaluate utilization is the met need for Caesarian Section (Annex 9). Overall this indicator had risen from 28% in 1996 to 40% in 1998, a substantial improvement which can be considered a concrete demonstration of the success of the project. It is particularly encouraging to note the increase of activity in Sefrou and Boulemane following the installation of full SOUC at these institutions.

According to the summary data made available, the met need for emergency obstetric care had risen over the life of the project from 32% in 1996 to 55%. A rise of this magnitude probably indicates an increase in utilization. However, we discovered

many problems with the data. We hoped to be able to disaggregate the data for SOUBs and SOUCs. However, when attempting to do this we discovered major discrepancies between the summary data chart provided and the original data and between the data on p3 of the semestrial form and the summary on p1. As detailed in Section , we also observed major problems in the collection of data for this indicator. Overall we felt that the data available for this indicator was likely to be so unreliable at this stage that conclusions should not be drawn. However, it is apparent that the SOUCs continue to make by far the larger contribution to care of obstetric emergencies.

Utilization of facilities for delivery is not a primary indicator for success of the project. Although these data had been collected they had not been compiled or analyzed. The evaluation team felt that this information is of use in interpreting the indicators of met need for obstetric care and in quantifying use of obstetric facilities in general and were able to extract a certain amount of data from the semestrial forms available (Annex 9). For provinces where data was available it is clear that the proportion of institutional deliveries in SOUC facilities is generally higher than that in SOUBs combined. It also seems that the proportion of deliveries in SOUCs has risen compared to that in SOUBs in Provinces where comparable data was available. This has implications for the provision of emergency obstetric care. If the work load of SOUC facilities continues to increase these facilities are likely to become swamped with work thus compromising their ability to deal with the major emergency cases that are referred there. In contrast, the SOUBs probably need to increase their workload in respect of deliveries in order to relieve the load on the referral hospital, and to ensure that the staff are conducting sufficient deliveries to ensure the confidence of the community for maternity care, and maintain their skills in maternity work.

3.3.2 Factors Affecting Utilization

The evaluation team were able to identify a number of factors which could be affecting utilization of facilities for emergency obstetric care.

Time - Utilization for EOC cannot be expected to increase suddenly just because a service has become available or been improved. A steady upward trend should be considered a success. If over a period of time it is clear that no increase has occurred then the reasons should be sought.

Distance - Women living very near to a facility are more likely to use it than those living far away. New facilities in very rural, thinly populated areas such as Boulemane can expect to have much slower increases in utilization than new facilities in densely populated places such as Fes Medina (where a remarkably rapid increase in utilization was noted).

Costs - Several hospitals introduced user charges last year. These charges are quite low (DH 140 per night) and many people appear to be exempt. The hospitals in fact make only a small proportion of the income originally planned from this source. It is possible that these charges (or the beaurocratic mechanisms involved in exemption)

do act as a barrier. They may explain some of the decrease in utilization for delivery observed at Al Ghosani and some other hospitals. Where hospitals are over utilized for normal delivery, and where alternative sources of care exist it is not necessarily a negative finding that women are deterred from using these facilities. However, it will be important that the charges do not act as a source of delay for women with life threatening complications.

In a number of facilities visited there were problems in supplies of antibiotics and families would be asked to buy these. These shortages may be related t the overprescribing observed in some facilities (e.g. all women delivering being prescribed an anti-biotic). The possibility of being asked t buy medicines was identified as a problem by several women interviewed in the facilities.

Women interviewed in hospitals regarded the opportunity costs and difficulties of reaching the facility as a barrier. They also had problems in finding people to care for their other children.

Continuous availability of services - Most facilities visited had a rota providing a 24hr service. In some facilities however, staff were not there at night which is likely to affect utilization.

Staff Attitudes - A socio-cultural research study using focus groups had been carried out in February 1999. The results of this study showed that one of the reasons women may be reluctant to use facilities for EOC is that staff are perceived as being unwelcoming. (As a result of this finding a training course has been implemented with the goal of improving the staff /patient relationship). Poor staff attitude was also a factor mentioned by women interviewed in the facilities visited. Along with staff attitudes, a welcoming environment is likely to have an effect on utilization. In particular, cleanliness, privacy and 'being like home' were mentioned in the focus groups. In Fes Medina women appreciated the fact that their relatives could be with them during labour and delivery. This feature should be replicated in other sites.

Confidence - Women are more likely to use a facility (without delay) in cases of emergency if they have confidence in it. In part confidence will result from knowing that a facility is a place where women go for delivery and that it has a good reputation in this respect. Women will also have confidence if they know the staff have the skills to care for them and that the equipment is there. An additional factor is the possibility of referral in cases of need.

3.4 Quality

3.4.1 Indicators:

Case fatality Rate (CFR) is one of the main process indicators used to measure quality. The evaluation team extracted the data needed to measure this in the principle hospitals. (Annex). The Case Fatality Rates are unexpectedly low given the MMR for the country. Reasons for this may be because a) the denominator is inflated due to overcounting of emergency cases (e.g. all abortion cases included, normal deliveries included in 'prise en charge'), b) maternal deaths have been undercounted (maternal

deaths are very likely to have been undercounted, particularly those occurring outside the maternity ward). No conclusions can be drawn from the case fatality rate indicator at this stage and the project should expect to see an increase in observed case fatality rate as data collection methods improve.

From observations during the site visits it seems that the improved technical skills and increased confidence acquired as a result of the SOUB training seems to have been maintained and in many places increased as utilization has risen. As noted during the training evaluation in 1998, staff need to have and maintain general maternity skills in order to be confident when dealing with emergencies.

Almost all facilities visited now have a doctor but in one or two places the doctor did not live nearby. Since the drugs that nursing/midwifery staff may prescribe is limited, this affects the quality of EOC that can be provided when the doctor is not available.

In 1999 the first group of direct entry midwives were graduated. In several sites visited these midwives were working in SOUB facilities. In other sites, although midwives were available and needed, posts had not yet been created for them. Employment of this new cadre of staff has the potential to improve the quality of maternity care at SOUB facilities.

In most sites visited there was a very positive attitude to obstetric work and the staff were keen to provide a service for women in their catchment area and to deal with most of the emergency cases admitted. In one or two sites visited morale did not seem so high and in these places the emphasis seemed more on referral than case management on site.

Supervision, particularly technical supervision, is important for maintaining the quality of services. Supervision of MSR activities is the responsibility of the Provincial Authorities, and is carried out by the MSR Animatrice. In some of the sites visited supervision visits were regular and frequent. In others they were infrequent. One site visited had not had a visit for over a year. Given the good quality roads in Morocco and the relatively easy access to transport this was suprising.

A proceedure for standard audit of maternal deaths has just been developed and will be implemented soon. Such audit will complement the quality component of the information system. It will be important that the audit process is seen as a catalyst for change and not a mechanism for blame. The inclusion of cases which did not result in death can help to develop a culture of inquiry aimed at institutional improvement.

3.4.2 Training

Clinical Training

In 1997 the project had arranged for the training of 273 staff in SOUB. This training had been formally evaluated in 1998 (Goodburn, 1998).

The basic EmOC training had taken place in two phases. Firstly 3 sessions of ToT (at Al Ghassani) and secondly 30 sessions of training for health staff (10 sessions at each

of the three hospitals). Each training session had lasted 15 days and had had 8 participants.

In general the training evaluation had found that the training had been successful. All planned sessions had taken place and both trainers and trainees were highly motivated.

As a pilot project the training had been conducted in a somewhat vertical manner however the evaluation had identified a number of opportunities for future integration with the MSPs 'Strategy for Continuing Education' . In some sites, routine rotation of peripheral staff through referral level maternity units had already been initiated in 1998. This scheme was continuing in June 1999 but had not yet been extended throughout the Region.

The course timetable was designed to ensure supervised practical experience in the major components of EmOC. This was one of the most successful features of the training. The training sites were well chosen with many deliveries and emergency cases. Practical supervision by midwives and DNS doctors was effective. Theoretical sessions at this level could in future be adequately taught by midwives or junior doctors with gynaecological training.

The training evaluation had resulted in a number of recommendations. The most important of these were:

- A global training plan which logically links all parts of the training process
- Integration of EmOC training into the CE strategy with involvement of the Regional IFCS
- Standardisation of protocols with input from CHU culminating in a second edition of the MSP Manual
- Reinforce and build on the practical aspects of the training
- Develop and use a standard training course
- All trainers should participate in a ToT

Communications Training

As a result of the findings of the Socio-Cultural Research a training course had been held which aimed to improve the interpersonal skills of health staff in clinical situations. The course had been conducted in Fes by three midwifery trainers from outside the region with input from a French Canadian consultant. The evaluation team were able to interview some of the staff who had participated in the training the previous week. These staff had enjoyed the training, said they had learnt a lot about how to treat patients in a more welcoming way and felt it was gong to help them a lot in their work.

We felt that it was excellent that the project had responded so quickly to the socio-cultural study findings. However, we also felt it would have been better to have undertaken this type of research at the beginning of the project so that the findings could have been incorporated into the clinical training.

3.4.3 Information Systems

The project had started use of a six monthly report in 1996 (Annex 11 . This report included information needed to calculate the process indicators for project monitoring. However, there was at that time no systematic or standardised collection of data at facility level. In September 1998 a new Obstetric Register was introduced along with a matching monthly form (Annex 11) . These tools form part of an ongoing wider project (also supported by JSI) to reform the SMI information system.

The staff interviewed like the new register a lot and said that they prefer to use this rather than the 2or 3 they used previously. It allows them to put down more details about complications and treatment than before.

There is a great need for standardization of how the register is filled out. For example, in one SOUC all deliveries and complicated cases are marked “prise en charge;” whereas in another it was taken for granted that all cases were “prise en charge” so it was not necessary to mark this column. Thus, in the first case, the facility’s contribution to “met need” would be greatly overestimated, and in the latter case, underestimated.

Other common problems with filling out the register include the following:

- all abortions are counted as complicated cases;
- the definition of “prolonged labor” given in the front of the register does not agree with the partogram being used in the maternities;
- the definition of “pre-eclampsia” given is not clear.

The instruction during the training was that only one complication column should be checked per woman. This is meant to be the main complication, and any others should be written in the observation or “other” columns. In most facilities, staff followed this pattern, but in a few more than one complication was checked for each woman. This is not a problem if the facility’s contribution to “met need” is determined by counting the women in the “prise en charge” and “referre” columns, where there should be only one check per woman.

It would be very useful to have a short training manual / workbook which would help standardize data recording. This is especially important since this register is going to be used widely. Without such a tool, it is likely that substantial geographic variation will arise due to the differing interpretations of trainers. Training o the information system should be incorporated into the clinical training.

Minor problems: identified were: cover is too thin, “hemorrhage” falls into fold, no column for hour of birth

The following alterations could be made if the register is revised : add column for retained placenta and one (in method of delivery section) for uncomplicated abortions.

Make it clear that “prise en charge” and “referre” columns pertain to “cas compliques” and not “mere.”

The ‘Fiche de Reference’ was in use in most facilities visited. In sites where the supervision mechanism was particularly strong the ‘Fiche de contr reference’ were being returned but in many places this was not happening, particularly where the referral hospital was particularly busy. The evaluators felt that the ‘Fiche de Reference’ was a valuable clinical tool that should apply to all cases, not just obstetric, but that it could not and should not be relied on as a part of the information system.

3.4.4 Standards & protocols

A committee has been formed (supported by the project) which is in the process of developing standards for obstetric care. This committee consists of Professors of Obstetrics and Gynaecology from the CHU. A draft has been written which is now being reviewed by interested parties. The next stage is validation. We reviewed the draft document and also had the opportunity to discuss it with Dr. Ann Thompson from the WHO Safemotherhood Programme. .

A great deal of effort has clearly gone into the preparation of this document and it is very detailed and long. In the introduction it states that it will address services to be provided at each of the three levels of care (CS; RH: UH). However, this concept is currently not clearly reflected in the text. At present the main focus seems to be the tertiary level and the general structure is more like a text book than a practical guide. Many of the diagnostic procedures and treatments could not be carried out at CS level. There are several areas where the recommended case management differs from that recommended by WHO for health facilities at the first referral level. . .

We felt that it was an excellent initiative to have started off the task of developing standards but that changes were needed in the focus and process.

- Expand the composition of the committee to include midwives, and eventually, staff working at Regional level.
- Focus on revising the existing MS Manual, which has many excellent features, rather than starting on a completely new text.
- Use the structure of the Family Planning Standards as a model.
- Refer to WHO documents for review of technical issues
- Include FIGO in the review process

3.5 Project Documentation

The evaluation team felt that there was considerable work still to be done on the project documentation. The JSI project has been extended allowing time for this to be achieved. Ideally the end result should be a ‘project package’ which describes all essential component parts of the project needed for it to be adapted and implemented

in other parts of the country or possibly in other countries. Essential components of this package would include:

- Suggested implementation plan
- A standard training course for CS staff including a manual, trainers guidelines and teaching materials.
- The information system
- Standard equipment lists

Completing the documentation (particularly the finalisation of the training course and materials) is likely to be very time consuming. It is unlikely that anyone in the MS will have time to do this unaided and currently JSI do not have the staff either. A medium term consultant (with technical skills in training and midwifery/obstetrics) should be employed to assist in the process .

Analysis of the data collected through the three years of the project is another area where there is further work to be done. The quality of the data needs to be assessed and discrepancies corrected as far as possible. Of particular interest is to look at the relationship between activities at SOUC and SOUB facilities and between new and old SOUC facilities (e.g. geographical source of Caesarian Section patients and whether utilization has increased overall or shifted between facilities)

3.6 Interagency Relationships

Interagency relationships appear to have been good. Financial co-ordination is ensured by the Bureau of International Relations at the MS but there is currently no official technical co-ordination mechanism in place. In general technical co-ordination has been maintained by informal mechanisms dependent on goodwill between advisors of the technical agencies. . The MS is keen to replicate this project in other parts of the country and other donor agencies (EU, UNFPA) have adopted the project design. In the absence of a project package, some agencies e.g. UNFPA are developing their own technical materials. UNFPA has already developed a detailed standard training course based on the pilot project concepts. There is a risk of substantially different technical aspects being introduced in different parts of the country. Apart from the need for the JSI pilot project to advance the documentation process there is also a need for a central technical co-ordination committee, (which should include Regional Representation), to be formed.

3.7 Cost

The costs of the pilot project were as follows:

Training	$300,000
Infrastructure	$225,000
Equipment	$1,500,000
Monitoring	$25,000
IEC	$75,000

Non of these costs seem excessive for a pilot project covering a population of people. It is likely that the equipment costs could be reduced if alternative suppliers

are available and if some of the more complex items (e.g. ultrasound machines, gynaecology beds) were replaced by simpler models. The costs of the training will be reduced as the Regions take over responsibility for this activity. The development costs of the monitoring system are presumed to be non recurrent. Socio-cultural research (as part of the IEC component) should be included in projected costs for replication.

4.1.. Sustainability

The prospects for sustaining the project in the North Central Region are reasonably good. Sustainability will depend on the ability of the Regional authorities to maintain both the essential equipment, and the skills of their personnel. For the time being the maintenance of equipment and infrastructure has been assured but planning needs to take place for future needs for replacement and spareparts.

Maintenance of personnel is an area of concern that the Region is well aware of. Activities that are likely to promote sustainability in this respect are:
A system of continuos education at regional/province level which includes refresher training and rotation for staff at peripheral facilities.
Creation of posts for direct entry midwives at peripheral facilities
Training of surgeons in caesarian section

Supervision is another key activity in ensuring sustainability. We observed that the attention being paid to supervision differed between provinces. Supervision needs to focus not only on administrative issues, but also on technical skills, equipment, and the information system.

Sustainability will also be affected by the ability of the Regional Authorities to further integrate the project activities into their plans and procedures for the health services as a whole.

4.2. Replicability

Replicability is currently an issue of keen interest at both Central and Regional level. It will be important that all those involved in replication first of all understand the approach which differs in many respects from previous attempts to tackle the problem of maternal mortality.

An important aspect of Replicability will be to support and maintain the decentralized aspects of project implementation.

Careful documentation and packaging as described above is a key requirement for effective replication. Another requirement will be strong technical co-ordination at central level to avoid duplication of effort, and to ensure technical homogeneity. There is also a need for review of National policies which might act as barriers to providing basic obstetric care in peripheral facilities (E.g. restrictions on prescribing antibiotics by nurses/midwives) and for ensuring that the content of training courses is standardized.

Lastly Replicability will depend on finding mechanisms for both reducing costs and accessing the support of donors.

5. CONCLUSIONS

The MSR pilot project has clearly been a success for which all involved should be congratulated . It should be sustained and replicated Nationwide. The major challenges for the future are the consolidation, maintenance and expansion of coverage of emergency obstetric care services within the framework of decentralized health services.

6. RECOMMENDATIONS

(Recommendations to be implemented before the end of project are marked *)

To ensure <u>sustainability</u> of existing project

- Intensify supervision, particularly in Provinces where this has been weak.*
- Include technical on-the-job training and use of the information system in supervision visits.*
- Develop mechanism for continuous education of peripheral staff by initiating refresher training and/or rotations at Regional/Province level.

- Ensure that simple instructions in French are prepared for all major equipment items and that staff receive demonstrations in use of equipment *
- Ensure that missing/spare equipment parts are supplied (including metal ventouse cups) and that electrical equipment has the correct plugs etc. *

- Analyze and summarize the data collected over the three years of the project. Feedback the results so that the information can be used to influence continuing project management. Develop a system for doing this at Province level on a continuous basis. *

- Implement and strengthen the system for maternal death/case audit in hospitals so that this becomes an engine for review and improvement. *

- Increase the number of SOUCs in the project area to 9.

To promote effective <u>replication</u> of project

- Prepare a package of the key elements of the project that can be used by other Regions/Agencies in project planning and implementation* Hire a consultant to assist in this large task.

- Initiate a MSR technical co-ordination committee within the MS including key donors

- Review policies and standards affecting emergency obstetric care at peripheral facilities (including roles and responsibilities of staff - prescribing antibiotics by midwives/nurses, performing obstetric procedures by HC staff, undertaking obstetric surgery by non obstetricians).*

- Promote technical consultation and information exchange with organizations such as FIGO and WHO.

- Form a committee which has a mix of health professionals (i.e. midwives, trainers). Reach consensus on the technical content of the manual to be used for training staff at peripheral level. *

- Prepare a standardized training course in collaboration with UNFPA (which will be included in the documentation package) which includes a manual, trainers guide and training materials.*

- Develop a standard training module on the information system (including practical exercises). Include this in the training course.* (Revise the Register instructions)

- Integrate the training on interpersonal skills into the clinical training *

- Ensure that the approach to emergency obstetric care and the use of process indicators is understood by those who will be responsible for project implementation

- Re-inforce the decentralized nature of the activity.

- Replicate the approach of developing services first and working on IEC in the community later

- Undertake socio-cultural research as part of the needs assessment before starting implementation so that the results can influence planning. Involving health personnel in collecting socio-cultural data can be a powerful tool in influencing attitudes.

- Include rapid participatory methods in the Provincial needs assessments so that the communities views are taken into consideration in planning the services..

- Actively support the direct entry midwifery training and create posts for graduates of this course

- Ensure that MSR concepts are introduced into all basic curricula for health personnel and into continuing education for doctors, midwives etc.
-

- Develop mechanisms for reducing the costs of the program by rationalizing training activities and equipment purchases.

APPENDIX 1. MAP

APPENDIX 2. PROCESS INDICATORS

Indicator	Definition	Minimum Level	Numerator	Denominator	Data Source
Availability of Basic Essential Obstetric Care (BEOC) Facilities	Number of health facilities providing BEOC functions per unit of population.	For every 500,000 population there should be at least 4 BEOC facilities	Number of facilities providing all standardized BEOC functions	Population of catchment area / 500,000	Checklist of functions
Availability of Comprehensive Essential Obstetric Care (CEOC) Facilities	Number of health facilities providing CEOC functions per unit of population.	For every 500,000 population there should be at least 1 CEOC facility	Number of facilities providing all standardized CEOC functions	Population of catchment area / 500,000	Checklist of functions
Institutional Deliveries	Proportion of all deliveries taking place in health facilities	At least 15% of all births should take place in health facilities.	Number of deliveries in the catchment population occurring in health facilities in one year	Total expected deliveries in the catchment population in one year *	Maternity Registers
Met Need for Emergency Obstetric Care (BEOC or CEOC)	Proportion of women with an obstetric complication treated in CEOC or BEOC facilities	100% of all women with obstetric complications should be treated in BEOC or CEOC facilities	Number of women with obstetric complications who were treated at BEOC or CEOC facilities in one year.	Number of women expected to experience obstetric complications in the catchment population in one year. Expected deliveries x 15%	Maternity and Gynaecology Registers.
Met need for Caesarian Section	Proportion of Caesarian Sections to all births	The % of deliveries by CS should be no less than 5% and no more than 15%.	Number of C/S in province in one year	Expected number of deliveries per year in Province	Operating theatre register
Case Fatality Rate in Facilities	Proportion of women with an emergency obstetric complication admitted to a facility who die	CFR should be less than 1%	Number of direct obstetric deaths in the facility in one year	Number of admissions for emergency obstetric complications in one year	Maternity and Gynaecology Registers.

* In Morroco expected deliveries per year is supplied by the Provincial statistics office.

APPENDIX 3. Terms of reference

APPENDIX 4.

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UNICEF. Copenhagen Warehouse Catalogue.

APPENDIX 5. PEOPLE MET

RABAT

Ministere de la Santé :

Direction de la Population:

Dr Mustafa Tyane, Directeur de la Division du Population
Dr Abdelwahab Zerrari, Chef de la Division de la SMI
Dr Bensalah Ali, Chef du Service de la PSM
Dr Fatimah Tsouli, Medicin du Service de la PSM

Centre Hospitalier Universitaire (CHU):

Pr Ouazzani, Chef de service; Gynéco-Obstétrique
Pr Tazi Saoud Anas, Chef de service; Réanimation de la mére

USAID:

Ms. Michele Moloney-Kitts, Cheif of Office of P,H & HR
Ms. Helene Rippey, Health Care Specialist

JSI:

Dr. Theo Lippeveld, Chief of Party
Dr. Redouane Abdelmoumen, Clinical Specialist
Ms. Souad Rahibe, Activity Support
Dr. Rachid Bezad, Consultant O&G

EU: Dr. Aouragh Mimour, Director du Projet

UNFPA:

Dr. Vincent Fauveau, Representative
Dr.
Dr. Ben Walli, RH Co-ordinator

FES:

Dr Bendali, Délégué Regionale
Dr Fouad Bouchareb, Délégué du Fes Medina
Dr Bijou Abbas, Epidemiologist
Dr Sefiani Abdellah, Medicin Chef du SIAPP
Dr. Youssef Riouche, Délégué de Sefrou
Dr Boualou, Délégué du Fes ZMY

BOULEMANE

Dr Babour Mustafa, Délégué de Boulemane
Dr Zemzari, Medicin Chef du SIAPP

TAZA:

Dr Hmama Lhousine, Délégué du Taza
Dr Abdellah Krimech, Medicin Chef du SIAAP
M Rouari, Major du SIAAP

APPENDIX 6. SCHEDULE OF MISSION

Monday 31st May
- pm EG arrived
  Briefing with Dr Lippeveld and Dr Redouane

Tuesday 1st June
- am DM arrived
- pm Briefing at USAID
  Meeting at DP, MS

Wednesday 2nd June
- am Meeting at JSI
- pm Preparation for field visits

Thursday 3rd June

Fes:
- Bureau du Delegee
- Hopital Al Ghassani (SOUC)
- Hopital Ibn Al Khatib (SOUC)
- CS Sidi Boujida, Fes Medina (SOUB)

Sefrou:
- CS Ain Chegag (SOUB)

Friday 4th June

Boulemane:
- Hopital la Marche Verte, Missour (SOUC)
- Hopital Boulemane (SOUB)
- CS Guigou (SOUB)

Saturday 5th June

Taza
- Hopital Ibn Baja (SOUC)
- Maternité Oued Amlil (SOUB)
- Hopital Tahla (SOUB)
- Maternité Bir Tamtam (SOUB)

Sunday 6th June
- Data analysis

Monday 7th June
- am Meeting at JSI
- pm Meeting with Dr Tyane
  Meeting with EU Project Director

Tuesday 8th June

am DM leaves
Meeting at UNFPA

pm Debriefing meeting with Delegees at Fes

Wednesday 9th June

am Meetings at CHU

Thursday 10th June

am Presentation of Evaluation at Regional Meeting
pm Meeting with Ms Anne Thompson, WHO

Friday 11th June

am Meeting with Dr Rashid
pm Debriefing USAID
Meeting with Dr Ben Walli, UNFPA

Saturday 12th June

am EG leaves

APPENDIX 7. GUIDELINES PREPARED FOR SITE VISITS

Morocco Safe Motherhood Pilot Evaluation
GUIDE FOR SITE VISITS

Date:

Province:

Name of Facility: **SOUB / SOUC**

1. STAFFING

Categories and numbers Staff:

How do they go about ensuring 24hr coverage?

Can they do surgery at night? (SOUC)

What about anaesthesia? (SOUC)

2. SKILLS

How many SOUB staff trained under the project?

Do they feel confident in general to treat all complications?

If do not feel confident, which complications do they feel they cannot deal with?

Why not?

What do they do for these cases?

How do they deal with PPH? (Compare with checklist from training evaluation)

3. TRANSPORT & COMMUNICATIONS

How do they refer patients?

What problems do they have with referral?

4A. EQUIPMENT SOUB

	VENTOUSE	WASHING MACHINE	DELIVERY BED	STERILIZER	UTERINE EVAC EQUIP
Is it there? Y / N					
Is it appropriate? Y / N					
Has it been used (last 3 months)? Y/N					
If not used - Why not?					
Simple instructions (French/Arabic available)? Y / N					
Staff trained in use ? Y / N					
Is it being maintained?					
Other remarks					

4B. EQUIPMENT (SOUC)

	C/S KIT	ANAESTHESIA	AUTOCLAVE	BLOOD SUPPLY	ASPIRATOR
Is it there? Y / N					
Is it appropriate? Y / N					
Has it been used (last 3 months)? Y/N					
If not used - Why not?					
Simple instructions (French/Arabic available)? Y / N					
Staff trained in use ? Y / N					
Is it being maintained?					
Other remarks					

5. INFRASTRUCTURE

What was planned?	
How was the decision made?	
Was it completed?	
Was it appropriate?	
Maintenance plans?	
Remarks:	

6. DRUGS

Which of the following drugs are available at the site and in date

	Available? Y / N	In date? Y / N
Antibiotic injection		
Syntocinon		
Valium		

Are supplies of drugs or other renewable equipment (e.g. gloves, antiseptic, gauze etc. a problem?)

7. FUNCTIONS

Which of the following functions have been done in the last three months

	Y / N
i/v or i/m antibiotics	
i/v or i/m oxytocic	
i/v or i/m anticonvulsant	
Removal retained placenta	
Evacuation retained products	
Ventouse	
Blood Transfusion	
C/S	

8. RECORD KEEPING

	Y / N	REMARKS
Does the record system being used capture all pregnant / postpartum women?		
How many Registers are consulted for this information?		
Who is responsible for filling in the register?		
Is the Register always available?		
Is the new Register in use?		
Does it seem to be complete?		
Are they checking multiple complications per woman?		
Is Prise en Charge ‘women’ or ‘complications’ ?		
Is it likely that maternal deaths will be missed? (SOUC)		
How do the staff feel about the new record keeping system?		

9. USERS

Staff Opinions

What do staff think attracts women to this facility?

What factors might prevent women using this facility?

‘Patients’ Opinions

Why did they come to this facility? (Medical problem)

What made them choose this facility for their care?

Where else could they have gone?

Why didn’t they go to the other places?

What difficulties did they experience in coming here?

10. OTHER OBSERVATIONS

APPENDIX 8. LIST OF PROJECT HEALTH FACILITIES

APPENDIX 9. DATA TABLES

A) Data Table supplied by Project

B) CHANGES IN NUMBER OF FUNCTIONS AVAILABLE AT 35 SOUB FACILITIES 1996-98

Number of Functions	1996		1997		1998	
	1	2	1	2	1	2
0	9	8	7	8	3	4
1	0	0	0	0	2	0
2	4	1	1	3	3	1
3	2	6	7	4	7	3
4	6	8	5	4	3	7
5	6	6	8	8	9	10
6	8	6	6	7	11	10
Mean	3.1		3.4		4.3	

C) INSTITUTIONAL DELIVERIES

	TOTAL BIRTHS EXPECTED			BIRTHS OBSERVED					
	1996	1997	1998	1996		1997		1998	
				n	%	n	%	n	%
FES	21513	21840	22479						
SOUC				10027	46.6	11081	50.7	10831	48.2
SOUB								84	
SEFROU	5150	5228	5271						
SOUC				854	16.2	1203	22.8	1229	23.3
SOUB								1719	32.6
BOULEMANE	3882	3941	3988						
SOUC				315		337			
SOUB				377		404			
TAZA	17139	17400	17592						
SOUC				4029	23.5	4225	24.3	5807	33.1
SOUB				2240	13.1	2566	14.7	2798	15.9
AL HOCEIMA	10265	10421	10552						
SOUC				1065	10.4	1154	11.1	-	
SOUB				2949	28.7	3054	29.3	-	
TAONATE	15272	15504	15625	2920	19.1	3287	21.2	3538	22.6

D) CASE FATALITY RATES IN SOUC FACILITIES

	EOC Cases			Maternal Deaths			Case Fatality Rates		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
FES									
Al Ghassani	738	857	1689	11	11	15	1.5	1.3	0.9
Ibn Al Khatib	-	-	1074	-	-	0			
Tajmouati	220	322	861	0	0	0			
SEFROU									
Hopital de Sefrou	-	-	509	-	-	0			
TAZA									
Hopital Ibnou Baja	758	1271	1157	7	5	5	0.9	0.4	0.4
BOULEMANE									
Hopital Marche Verte	21	9	-	0	0	-			
AL HOCEIMA									
Hopital Mohammed V	1322	1312	-	4	2	-	0.3	0.2	-

APPENDIX 10

COMPARATIVE COSTS (US$) OF EQUIPMENT FOR SOUB FACILITY

Item	USAID	DEBAY	UNIPAC
Delivery Table	986	900	508
Gynae Examination Table	924	1000	250
Electric Ventouse	1636	3000	(466) manual
Examination Lamp	48	500	106
Screen	106	200	
Chair (with wheels)	175	300	
Stretcher (on wheels)	504	300	396
Instrument trolley	221	300	179
Foetal stethascope (Pinard)	74	8	1
Sphygmomanometer (Wall)	61	80	
Sphygmomanometer	85	10	25
Steriliser drum 240mm	55	70	17
Steriliser drum 180mm	44	50	
Steriliser drum 150mm	44	40	
Hot Air Sterilizer	? (500)	500	378
Delivery Box	32	65	32
Episiotomy Box	81	11	38
Speculum/Suture Box	300	437	
Aspiration Box	822	962	
Washing Machine	802	500	
TOTAL	7482	9233	

APPENDIX 11. REGISTER AND REPORTING FORMS